G-WIN AMD Rugged Series Panel PC

AMD Geode LX800 3.5” SBC, Ultra Low Power, Fanless Design with CPU, TFT LCD and 10/100/1000 base-T Ethernet.

User Guide Version 1.1

FCC Statement

This device complies with part 15 FCC rules. Operation is subject to the following two conditions：

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and founded comply with the limits for "a" digital device class, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment uses and can radiate radio frequency energy, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at him own expense. CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

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Disclaimer

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Warranty

We warrant that each of its products will be free from material and workmanship defects for a period of one year from the invoice date. If the customer discovers a defect, Winmate will, at its option, repair or replace the defective product at no charge to the customer, provided it is returned during the warranty period of one year, with transportation charges prepaid. The returned product must be properly packaged in its original packaging to obtain warranty service.

If the serial number and the product shipping data differ by over 30 days, the in-warranty service will be made according to the shipping date. In the serial numbers the third and fourth two digits give the year of manufacture, and the fifth digit means the month (e. g., with A for October, B for November and C for December).

For example, the serial number 1W08Axxxxxxxx means October of year 2008.

Check List

Before using this Panel PC, please make sure that all the items listed below are present in your package

- 1 x G-WIN AMD Series Rugged Panel PC
- 1 x G-WIN AMD Series Rugged Panel PC User Guide
- 1 x A831 SBC User Manual
- 1 x Power adapter
- 1 x Power cord
- 1 x Power wire (Optional w/ terminal block)
- 1 x Y cable for Keyboard and Mouse
- 1 x CD-ROM disc with Driver Utility and User's Manual
- 1 x Touch Driver CD (Optional)
- 1 x WLAN Antenna (Optional)
- Mounting Bracket & kits (Optional)

Make sure that all of the items listed above are present. Do not attempt to apply power to the system if there is damage to any of its components.

Customer Service

We provide service guide for any problem as follow steps：First, visit the website at http://www.winmate.com to find the update information about the product. Second, contact with your distributor, sales representative, or our customer service center for technical support if you need additional assistance. You may have the following information ready before you call：

- Product serial number
- Peripheral attachments
- Software (OS, version, application software, etc.)
- Description of complete problem
- The exact wording of any error messages

In addition, free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. Please do not hesitate to call or e-mail us.

Notice

1. Do not touch the LCD panel surface with sharp or hard objects.
2. Do not use abrasive cleaners, waxes or solvents for cleaning, use only a dry or damp, soft cloth.
3. Use only with a high quality, safety-approved, AC/DC power adapter.

Safety Precautions

- **Warning!**

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

- **Caution!**

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Safety and Warranty

1. Please read these safety instructions carefully.
2. Please keep this user's manual for later reference.
3. Please disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
4. For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS**.
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
12. Never pour any liquid into an opening. This could cause fire or electrical shock.
13. Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
14. If any of the following situations arises, get the equipment checked by service personnel:
    A. The power cord or plug is damaged.
    B. Liquid has penetrated into the equipment.
    C. The equipment has been exposed to moisture.
    D. The equipment does not work well, or you cannot get it to work according to the user's manual.
    E. The equipment has been dropped and damaged.
    F. The equipment has obvious signs of breakage.
15. Do not leave this equipment in an uncontrolled environment where the storage temperature is below -20℃ (-4℉) or above 60℃ (140℉). It may damage the equipment.

Revision History

Version	Date	Note	Author
1.0	2008.01.25	✓ First Version	Martin Chen
1.1	2008.07.15	✓ Second Version	Sarah Su

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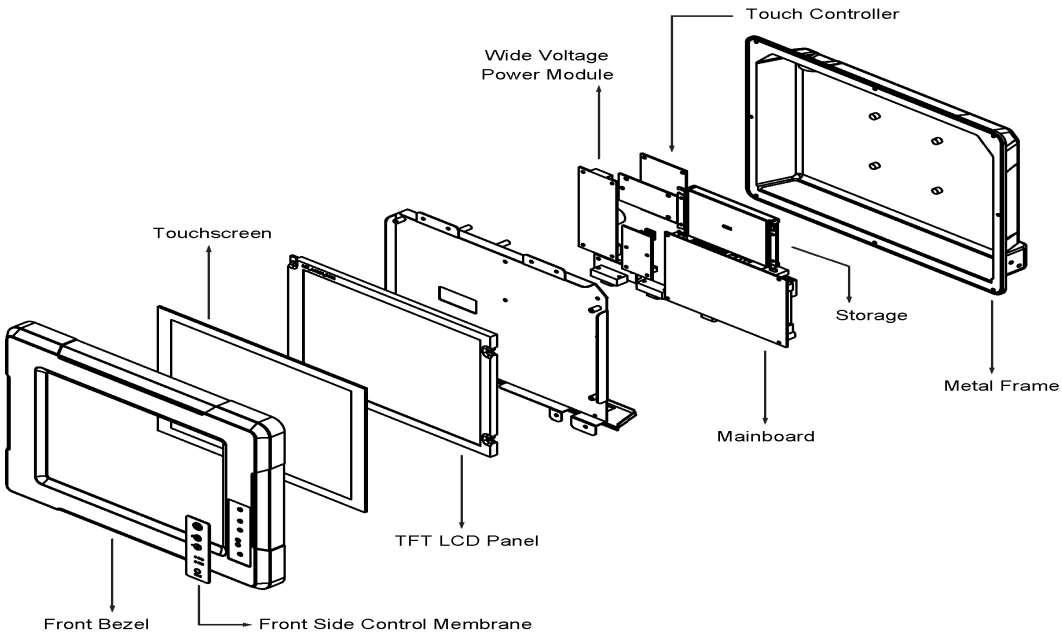
Chapter 1 GENERAL INFORMATION

1-1 Introduction

G-WIN AMD® Rugged Panel PCs with fanless, low power platform design, sunlight readable panel, WLAN integration, great ability for anti-shock & vibration, IP65 protection and anti-corrosion coating with aluminum alloy housing. Both of great mobility and robust design are fitting the demands for every harsh environment applications such as logistics, transportation/ fleet management, heavy vehicles, utility and also outdoor usage.



1-2 G-WIN RUGGED Series Panel PC System Mother-Board Specifications

Form Factor	3.5”	
CPU	AMD Geode LX 800 500MHz	
Chipset	AMD CS5536 Companion Device	
Memory	One 200-pin SODIMM socket supports up to 1GB DDR 400 SDRAM	
BIOS	Award 4Mbit	
VGA Controller	On-board VGA/LCD Controller	
VGA Memory	Shared memory max.64MB	
LCD Support	TTL and Available to support LVDS interface LCD	
Ethernet	Realtek RTL8100CL-LF Chipset, 10/100 Mbps Optional Dual Realtek 8110cs, Giga bit Ethernet	
Audio	Realtek ALC203 AC97 Chipset + AC97 codec	
SATA	Build-in SATA connector, supports 2 SATA1.0 ports	
Serial	4x RS-232 (4 x pin-header)	
USB	4 x USB (2 x Rear I/O, 2 x pin-header)	
KB / Mouse Connector	Mini-DIN PS/2 interface	
Expansion Slots	1 x Mini PCI (Optional), 1 x CF Type I/II socket	
Power Adapter	DC IN 12V or 24V (Optional)	
Storage	**8.4” PPC**	**10.4” PPC**
（Default）	4G Compact Flash Card	2.5” 40G HDD
（Optional）	Industrial Compact Flash Card	2.5” Flash Disk(SSD) Compact Flash Card Industrial Compact Flash Card
O/S(Optional)	Windows XP Embedded / Windows XP Professional Embedded/ WinCE5.0 / Linux 2.6.11	

1-3 Panel PC Selection Guide

The G-WIN Rugged Series Panel PCs support 8.4-inch and 10.4-inch TFT Panel w/ Touch Screen function, please refer the below:

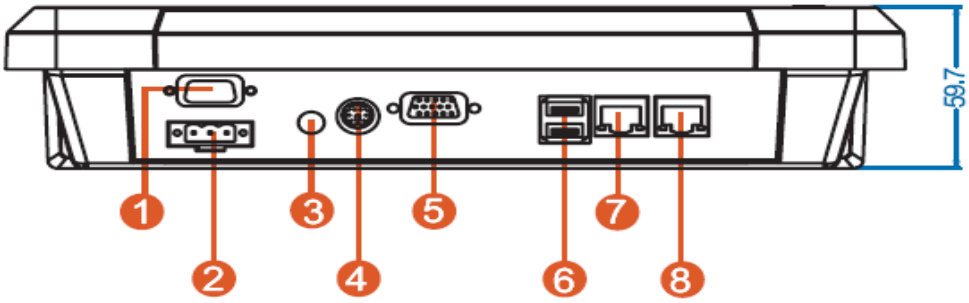
LCD Spec. / M/B / Model Name		Resolution (Recommended)	Display Color
8.4”	R08A83S-VMT1	800 × 600	262,144 (6bit/colors)
	R08A83S-VMM1	640 × 480	262,144 (6bit/colors)
	R08A83S-VMM2	1024 × 768	262,144 (6bit/colors)
	R08A83S-VMU1	800 × 600	262,144 (6bit/colors)
	R08A83S-VMU2	800 × 600	262,144 (6bit/colors)
10.4”	R10A83S–VMM2DL	800 × 600	262,144 (6bit/colors)
	R10A83S–VMM3DL	1024 × 768	16.2M (6bit+FRC)
	R10A83S–VMP1DL	800 × 600	262,144 (6bit/colors)
	R10A83S–VMP3DL	640 × 480	262,144 (6bit/colors)

Chapter 2 Getting Started

2-1 Input / Output Devices

2-1-1 8.4-Inch Input / Output Devices

The following figure shows the I/O arrangement of the 8.4" G-WIN Rugged Panel PC. The backside of the chassis contains most of the connectors.

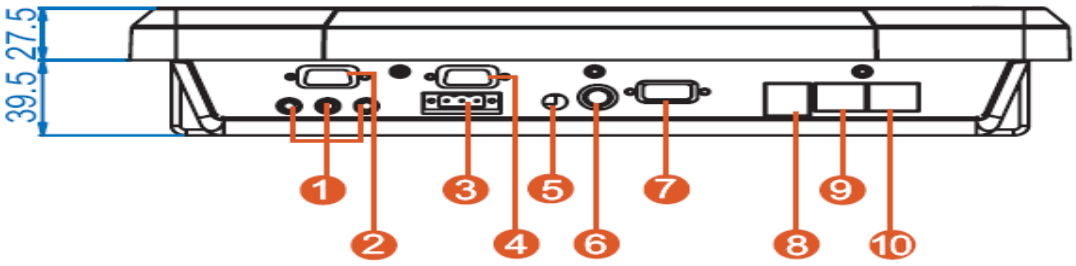


1.COM1
2.DC Terminal Block (optional)
3.DC Lockable Input (Default)
4.PS/2
5.VGA
6.USB 1.2
7.LAN1
8.LAN2

1	COM1	9-pin male Serial Port connector that can attach a serial mouse or other serial devices directly to the port.
2	DC Terminal Block (Optional)	Pluggable 3pin terminal block power input, normally comes with use wide power range module inside.
3	DC Lockable Input (Default)	Connect the power cord to the AC outlet, and connect the power to the monitor through the AC/DC adapter.
4	PS/2	PS/2 Connector plus Y cable to connect Keyboard and Mouse.
5	VGA	Use VGA port to connect an external Display.
6	USB 1, 2	USB-compatible devices can be plugged directly into the USB 2.0 port.
7	LAN1	10/100 Mbps (Optional Giga LAN), connect a network cable to the standard RJ-45 port and get connection to the Local Area Network (LAN).
8	LAN2	10/100 Mbps (Optional Giga LAN), connect a network cable to the standard RJ-45 port and get connection to the Local Area Network (LAN).

2-1-2 10.4-Inch Input / Output Devices

The following figure shows the I/O arrangement of the 10.4" G-WIN Rugged Panel PC. The backside of the chassis contains most of the connectors.



1.Line in,Line out , Micro in
2.COM2 (optional)
3.DC Terminal Block (optional)
4.COM1
5.DC Lockable Input (Default)
6.PS/2
7.VGA
8.USB 1.2
9.LAN1
10.LAN2

1	Audio	Line in, Line out and Micro in.
2	COM1	9-pin male Serial Port connector that can attach a serial mouse or other serial devices directly to the port.
3	DC Terminal Block (Optional)	Pluggable 3pin terminal block power input, normally comes with use wide power range module inside.
4	COM2(Optional)	9-pin male Serial Port connector that can attach a serial mouse or other serial devices directly to the port.
5	DC Lockable Input (Default)	Connect the power cord to the AC outlet, and connect the power to the monitor through the AC/DC adapter.
6	PS/2	PS/2 Connector plus Y cable to connect Keyboard and Mouse.
7	VGA	Use VGA port to connect an external Display.
8	USB 1, 2	USB-compatible devices can be plugged directly into the USB 2.0 port.
9	LAN1	10/100 Mbps (Optional Giga LAN), connect a network cable to the standard RJ-45 port and get connection to the Local Area Network (LAN).
10	LAN2	10/100 Mbps (Optional Giga LAN), connect a network cable to the standard RJ-45 port and get connection to the Local Area Network (LAN).

2-2 Starting the Panel PC& O/S Installation

1. Connect the power to AC/DC adapter, and connect the power cord to the AC outlet.
2. Press the power on switch to start the Panel PC.
3. Press “DEL” to enter the CMOS setting and check the BIOS setup.
4. You may install your own O/S if it is not installed.

   When installing O/S for this Panel PC, please follow the steps and use external equipment as **Keyboard and Mouse.**

   (a) Please use external USB DVD-ROM to run the O/S and Driver setting (as picture showed below).

USB Cable

2-3 Driver Installation

The PPC comes with a User’s Manual and Driver CD that contains most of the drivers and utilities of your needs.

1. Following the step by step to install Driver (Please refer A831 SBC User’s Manual Chapter 4, 5, 6, 7) include: Graphic, Chipset, VGA, Audio, SATA (if necessary) and Ethernet.
2. Following the step by step to install the Touch screen if necessary (Please refer G-WIN RUGGED series PPC User Guide Chapter 3).

Chapter 3 Touch Driver Installation

3-1 Introduction

The PPC supports three kinds of Touch Panel Solutions: ELO AccuTouch touch-screen, ELO Infrared touch-screen and Premier Touch system. All of the touch-screen consists of a touch-screen and an electronic touch-screen controller.

The G-WIN Rugged Series Panel PC's touch device is used RS232 interface touch controller card via ***the COM3 port*** inside Panel PC. When the touch driver installed either for ELO or Premier Touch systems, it will detect COM3 port automatically.

The ELO AccuTouch and Premier touch-screen are based on patented resistive technology. The touch-screen may be a flat, spherical, or cylindrical. It is installed over the face of the display. Since its shape matches of the display face, the touch-screen has excellent clarity and minimal parallax.

The ELO CarrollTouch infrared (IR) technology uses a small frame around the display with LEDs and photoreceptors on opposite sides, hidden behind an IR-transparent bezel. The Controller sequentially pulses the LEDs to create a grid of IR beams. A touch obstructs one or more the beams which identify the X and Y coordinates. CarrollTouch technology combines superior optical performance with excellent gasket-sealing capabilities, so it's an excellent choice for harsh industrial and outdoor kiosk applications. Touched with a finger, gloved hand, fingernail, or stylus, it delivers a fast, accurate response every time.

3-2 The ELO AccuTouch/ CarrollTouch infrared Driver Installation

ELO AccuTouch/ CarrollTouch infrared driver software provides a consistent software interface among all ELO AccuTouch/ CarrollTouch infrared touch screens and controllers.

Go to http://www.elotouch.com/Support/dnld.asp for a complete list of available drivers.

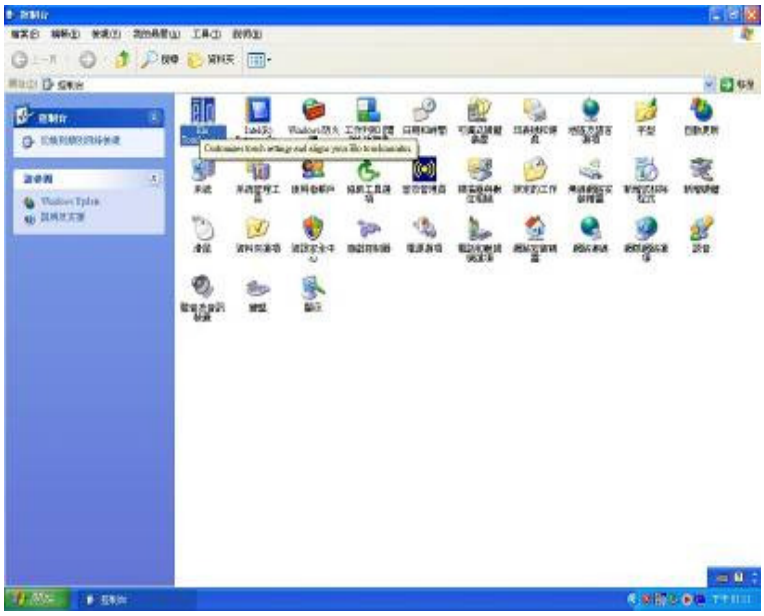
For Driver Installation, please install the “ELO Touch System Touch Tools CD” for Windows XP, Windows 2000, Windows Me, Windows 98, Windows 95, Windows NT, Windows CE 2.x, 3.0, 4.x, Windows XP Embedded, Windows 3.1, DOS, OS/2 Warp, and Apple Macintosh. Just follow the step by step to install the driver.

Choose “Auto-detect ELO devices” in the first step. If not, the following step will need users choose **COM3** port for detecting the devices.

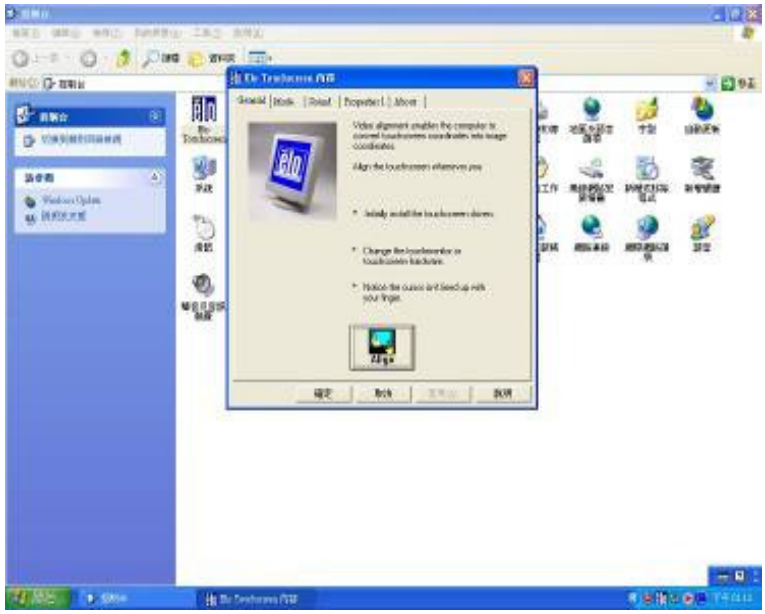
3-2-1 Configuration Utility

After finishing the installation, please follow the steps to test the configuration utility.

Step.1 Enter “My Computer”, click the “ELO Touch Screen” shortcut function.

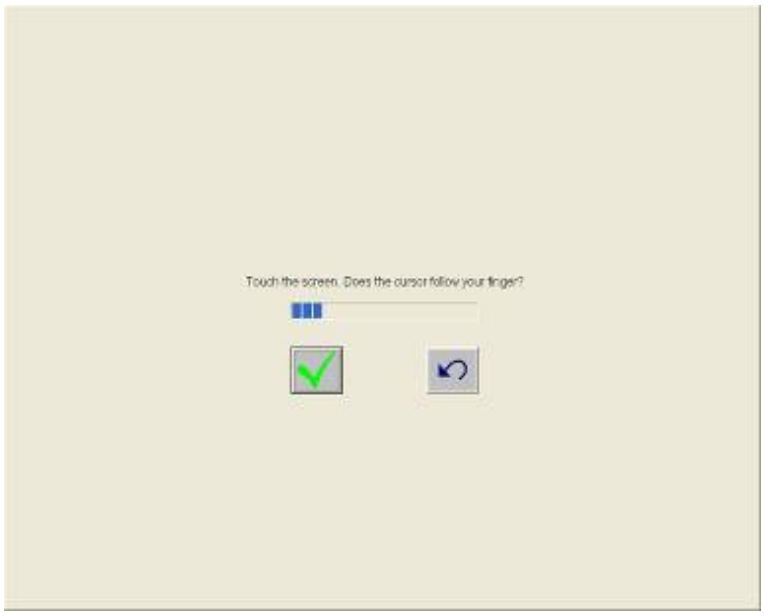


Step.2 Click “Align” function key to go to next step.



Step.3 Correct 4 point locations on screen with the Panel PC. Screen display as follows.

Step.4 Touch the “yes” function if the cursor follows your finger and finish the utility test.



3-3 The Premier Touch Driver Installation

Touch-Kit is the Premier Touch software, which contains drivers of the touch panel controllers for the specified communication connectors, RS232, PS/2 and USB, and the other two utilities.

The two utilities are as follows:

- Touch Tray support

  This is utility for emulating the right and left button of mouse through controlling touch panel. Users can toggle between right/left mouse buttons by this utility.

- Configuration support

  The calibration and draw test of touch panel are done by this utility. Besides, users can add or remove for new RS-232 or PS/2 touch panel devices.

3-3-1 Install Touch-Kit

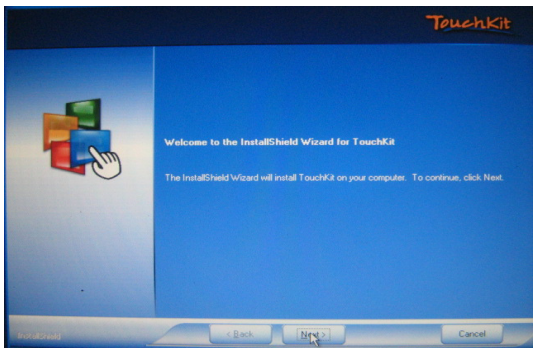
Follow below steps to install Touch-Kit:

Step.1 Put the Touch-Kit CD to CD-ROM.

Step.2 Open the Rugged PPC User Manual CD to “Touch _PM” directory.

Step.3 Double click the **Setup.exe**, then windows starts to run the installation program. Notice that does not plug the USB controller on the system before the installation has been finished.

Step.4 Click Next to continue installation. And it will auto-detect touch devices in COM3 port at your Panel PC.

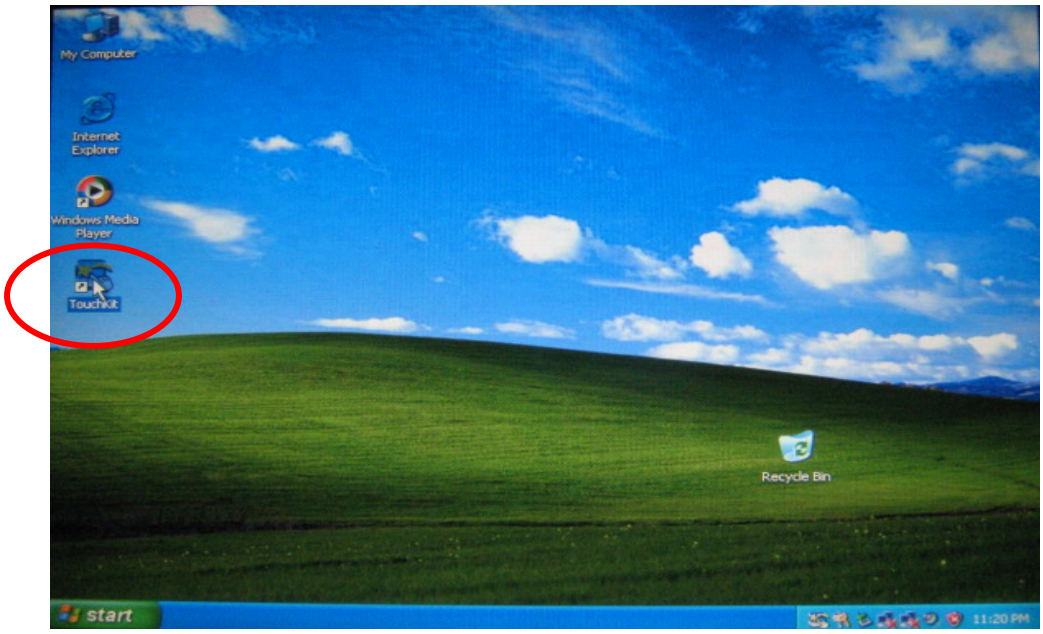

TouchKit
Welcome to the InstallShield Wizard for TouchKit
The InstallShield Wizard will install TouchKit on your computer. To continue, click Next.
< Back
Next >
Cancel

Step.5 Following step by step to finish the driver installation.

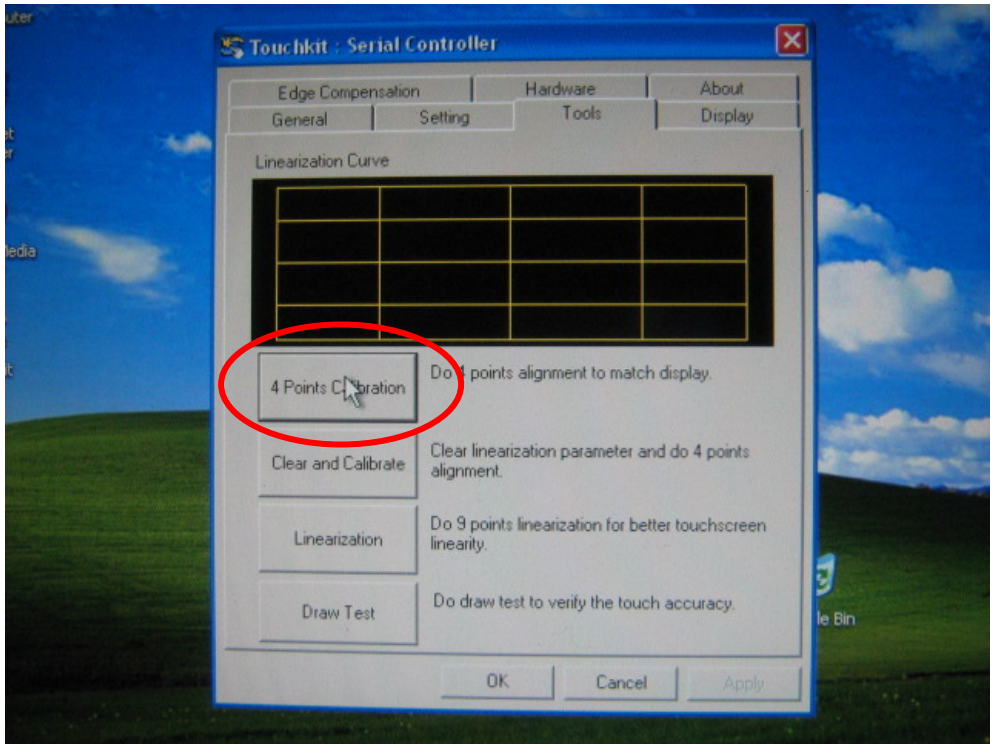
3-3-2 Configuration Utility

After finishing the installation, please follow the steps to test the configuration utility.

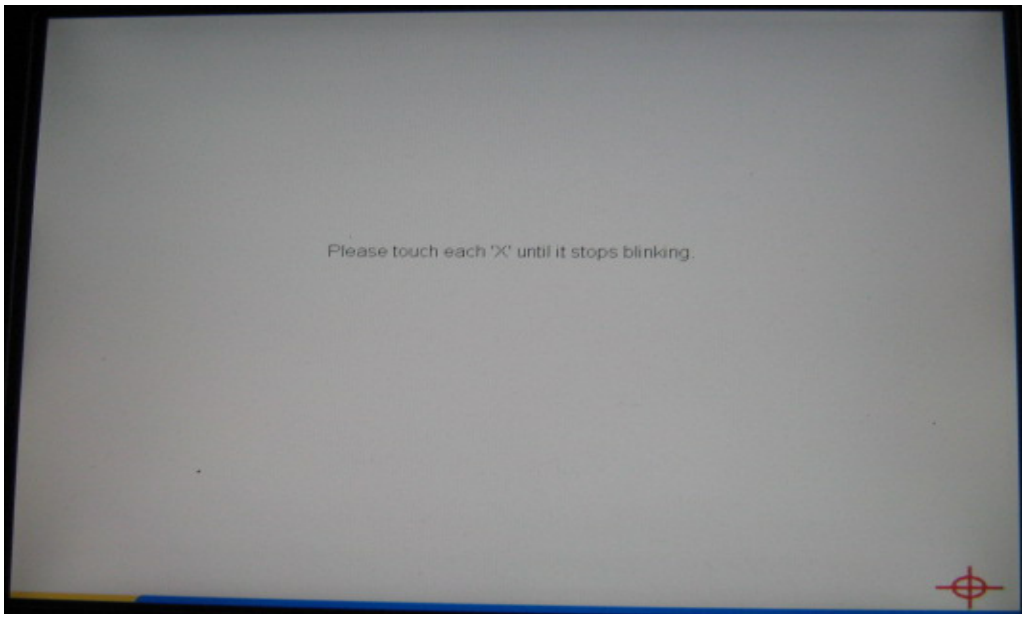
Step.1 Click the “Touch-Kit” shortcut function in the desktop.



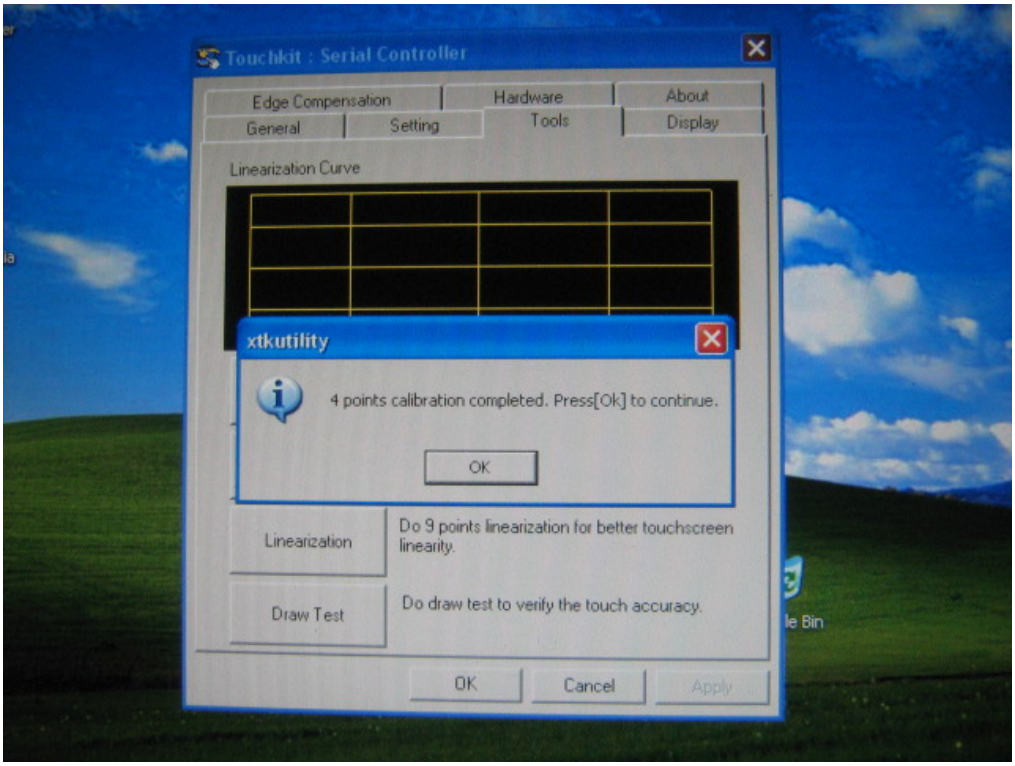
Step.2 Enter “General” function and choose the language you need. Then Enter “Tool” function alignments to match the display. And go to next step.



Step.3 Correct 4 point locations on screen with the Panel. Screen display as following.



Step.4 Play “Yes” to continue if 4 points calibration test is fine and finish the testing.



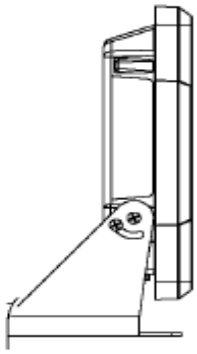
Chapter 4 G-WIN Rugged Panel PC Mounting Guide

The Panel PC is suitable for most of the industrial/commercial application by any kind of mounting approaches. There are two main mounting approaches as Vehicle mounting and VESA mounting; both approaches are very easy for user to set up the Panel PC. As the pictures guided:

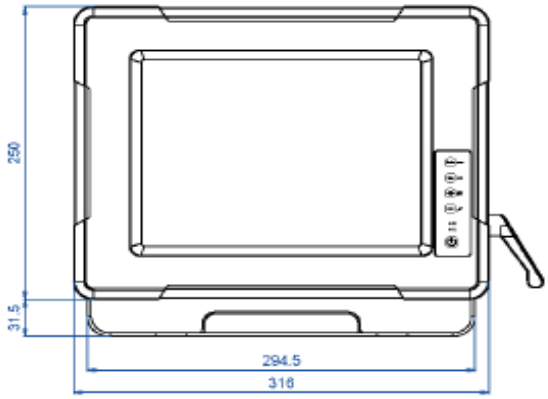
Application 1

VEHICLE MOUNTING

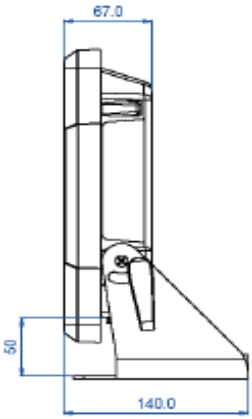
Mount with Vehicle mount kits and then mounted into mounting bracket.



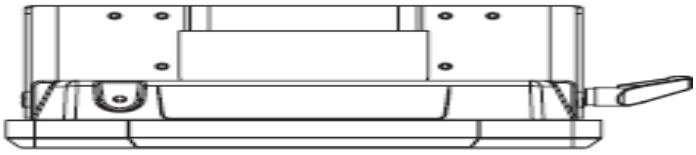
SIDE VIEW



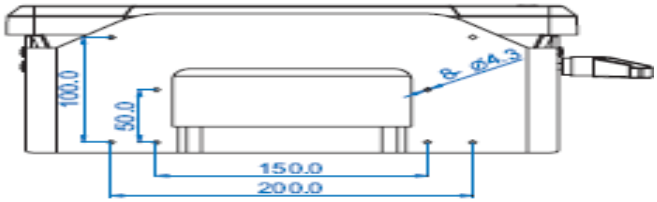
FRONT VIEW



SIDE VIEW



TOP VIEW

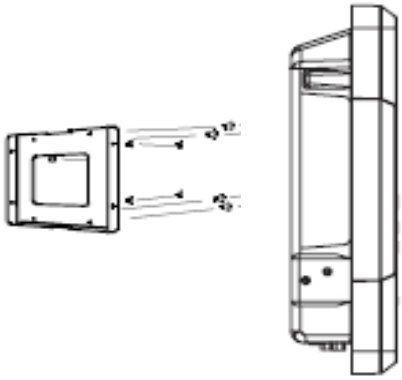


REAR VIEW

Application 2

WALL MOUNTING

Mount with VESA mount kits and then mounted into wall



4-1 Vehicle Mounting

Before setting up rugged bracket, please check the complete items with nothing missing as following.

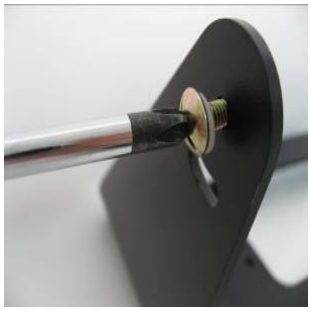
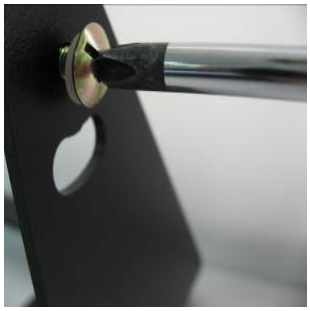
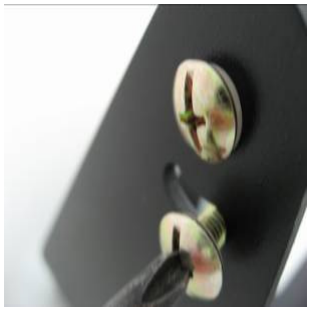
Rugged Panel PC bracket accessory list

- One Bracket Stand
- Three M5x10 screws with washer
- One “Locking handle” adjustment tool with metal washer

SOP for Bracket Stand Assembly

1. Put the Rugged Panel PC on the bracket stand, aim to the screw hole for each other.

2. Screw on three normal M5x10 screws to fix the rugged product upon the stand.

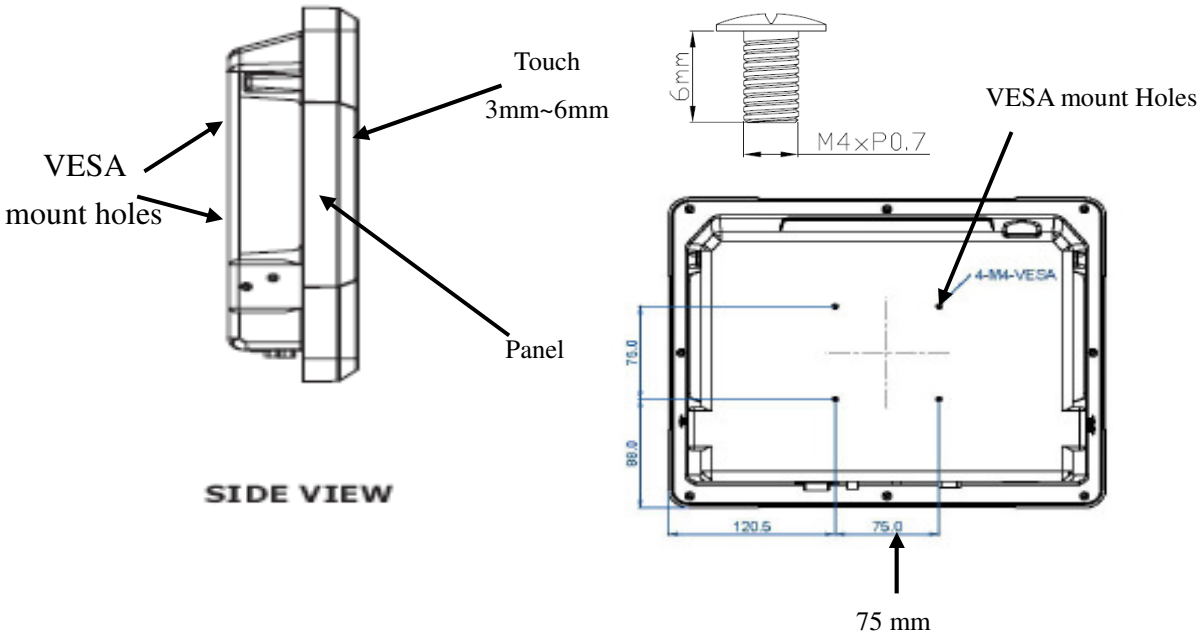
3. Screw on Locking handle to screw the rugged product tight.

4. Loose the hand-screw adjustment tool, then you can adjust product angle on the stand. Then screw the product tight again to fix.

4-2 VESA Mounting

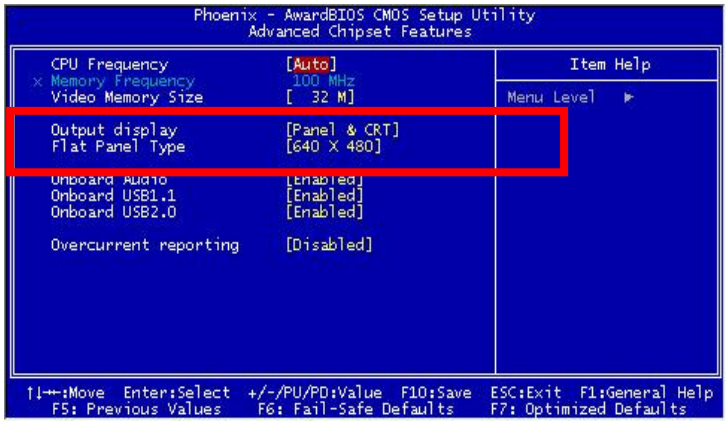
Fix the Panel PC with four screws (standard VESA), and fasten on the wall with other four screws.

- 75 mm x 75 mm

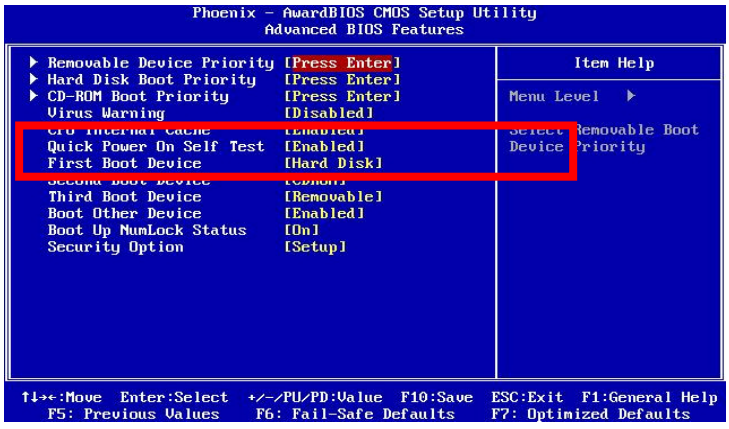


KNOWN ISSUES

1. There might be some image noises displayed at the time of PC boot and Windows start up.
2. When use an “external display” as CRT or LCD for external mode (Panel & CRT), the resolution of external display may be recommended equal to the CMOS setting for panel [Flat Panel Type]. If the external display is lower resolution than CMOS setting in Windows, it may cause display indistinct.
   - Recommendation in CMOS setting：
     i. Choose “CRT” only when use external display.
     ii. Choose “Panel” only when use internal panel display.


Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features
CPU Frequency [Auto]
x Memory Frequency 100 MHz
Video Memory Size [32 M]
Output display [Panel & CRT]
Flat Panel Type [640 X 480]
Onboard USB1.1 [Enabled]
Onboard USB2.0 [Enabled]
Overcurrent reporting [Disabled]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

3. If customers need to use USB-HDD or USB-CDROM for booting an operating system at start-up time, and we recommend to disable the “Quick Power On Self Test” function in CMOS setting


Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
Removable Device Priority [Press Enter]
Hard Disk Boot Priority [Press Enter]
CD-ROM Boot Priority [Press Enter]
Virus Warning [Disabled]
Quick Power On Self Test [Enabled]
First Boot Device [Hard Disk]
Third Boot Device [Removable]
Boot Other Device [Enabled]
Boot Up NumLock Status [On]
Security Option [Setup]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

NOTICES

1. The Operation Systems we currently support are Windows XP and XP Embedded. When installing driver, please make sure you're using Windows XP Service Package 2.
2. The VGA output port for A831 is only for displaying the same images as built-in display. The extended mode is not available for A831.
3. When you use CF card as storage of Operation System, you need to use "**Fixed Disk Mode**" type Compact Flash Card instead of removable disk mode.
4. The internal Compact Flash socket is **NOT A PLUG & PLAY DEVICE**; you may **remove the CF card only at POWER-OFF status.**